

17. (Twice amended) The method of claim 12, wherein the key is on a mobile station.

18. (Twice amended) The method of claim 12, wherein the key is on a computer.

REMARKS

1. Claims 1-13 and 15-18 remain in the application. Claims 1-7, 12, 13, and 15-18 have been amended to clarify the features of the invention.

A marked-up version of the rewritten claims is attached hereto.

2. Claims 1-13 and 15-18 are not obvious over Grover et al. (US 5,818,437, hereinafter "Grover") in view of Yu et al. (US 5,852,414, hereinafter "Yu").

Referring to the features of independent claims 1 and 12 as amended, the combination of Grover and Yu fails to disclose or suggest performing a first comparison of a first character candidate to a storage of words of a defined language.

In Grover, a user inputs a series of keystrokes and presses a "select" key to delimit a word, which is then processed with a dictionary. Thus, there is no comparison of a character to a storage of words.

Yu discloses a four way switching button that performs switch closures to designate characters. As such, Yu has no disclosure related to comparing a character to a storage of words.

The combination of Grover and Yu also fails to disclose or suggest accepting the first character candidate as a desired character if the first comparison is successful, and further

fails to disclose selecting a second character candidate based on the pressure distribution if the first comparison is unsuccessful. The cited combination still further fails to disclose performing a second comparison of the second character candidate to the set of stored words.

Grover describes a disambiguation method, and Yu describes a mechanical keyboard. The combination of Grover and Yu fails to disclose or suggest all the features of Applicants' invention. Grover discloses a computer keyboard, in which each key relates to several characters. The user presses each key once, and the equipment recognizes those alternative words that can be formed by the characters that relate to the pressed keys. The user can select the right word from these alternatives. The solution is therefore based on the assumption that the user always presses correct keys, and the disambiguation serves for showing the different alternatives of words.

In the present invention the keys also relate to several characters, but it is possible to select the correct character by pressing the key at a determined location. The keys of e.g. a mobile station may, however, be small compared to the size of a finger, and therefore there may often be errors in the inputs. The disambiguation feature is then used for checking and correcting input errors.


At least for these reasons, Applicants respectfully submit that claims 1 and 12 are patentable over the combination of Grover and Yu.


Claims 2-11, 13, and 15-18 depend from claims 1 or 12 and therefore are also patentable over the combination of Grover and Yu.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

The Commissioner is hereby authorized to charge payment for any fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,


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2/4/2003
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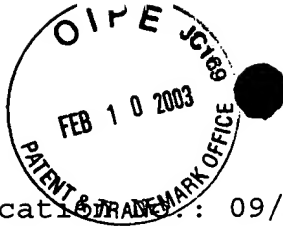
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Application: 09/750,945

Mark d Up Claims

1. (Twice amended) A keyboard arrangement including several keys for inputting characters by pressing the keys, and wherein at least one key is used for entering at least two different characters, the keyboard arrangement comprising:

~~means for detecting alternative sectional distributions of pressure on the at least one key~~ a detector for detecting a pressure distribution on the at least one key; and

~~a storage for words of a defined language;~~

~~a memory in which alternative character strings are formed, wherein sequential characters in a string relate to sequentially pressed keys, each character in a string being one alternative of a pressed key;~~

~~a processor for comparing the character strings to the~~ operable to determine a first character candidate based on the pressure distribution, and to perform a first comparison of the first character candidate to a storage of words of a defined language to achieve a comparison result, ~~and to accept the first character candidate as a desired character if the first comparison is successful,~~

~~means for deducing the input character based on said distribution of pressure on the key and on the comparison result~~ wherein the processor is further operable to select a second character candidate based on the pressure distribution if the first comparison is unsuccessful, and

to perform a second comparison of the second character candidate to the set of stored words.

2. (Amended) ~~A~~The keyboard arrangement ~~in accordance with~~of claim 1, ~~characterised in that it comprises means for deducing the input character also based on~~wherein the first and second comparisons include performing linguistic disambiguation.

3. (Amended) ~~A~~The keyboard arrangement ~~in accordance with~~of claim 1, ~~characterised in that it is~~further comprising substantially a QWERTY-keyboard.

4. (Amended) ~~A~~The keyboard arrangement ~~in accordance with~~of claim 1, ~~characterised in that said means for detecting alternative sectional distributions of pressure comprise~~wherein the detector includes at least two pressure sensitive and/or touch sensitive detectors attached to different locations of the key.

5. (Amended) ~~A~~The keyboard arrangement ~~in accordance with~~of claim 1, ~~characterised in that said means for detecting alternative sectional distributions of pressure comprise~~wherein the detector includes a movement sensitive detector attached to the key.

6. (Amended) ~~A~~The keyboard arrangement ~~in accordance with~~of claim 1, ~~characterised in that~~wherein the at least one key is triangular in shape or has three arms.

7. (Amended) ~~A~~The keyboard arrangement ~~in accordance with~~of claim 6, ~~characterised in that said means for detecting alternative sectional distributions of pressure comprise~~wherein the detector includes means for detecting the pressure of the alternative corners/arms of the key.

12. (Twice amended) A method for inputting characters with a keyboard, ~~characterised in that,~~ comprising:

~~— words of a defined language are stored;~~

~~— at least one key is pressed in one of at least two alternative ways,~~

~~— the way the key is pressed is detected, and~~

~~— alternative character strings are formed, wherein sequential characters in a string relate to sequentially pressed keys, each character in a string being one alternative of a pressed key;~~

~~— the character strings are compared to the stored words to achieve a comparison result, and~~

~~— the input character is determined of at least two alternative input characters of a key based on the detected way the key is pressed and based on said comparison result~~

determining a first character candidate from a pressure distribution on a key;

comparing the first character candidate to a set of stored words;

accepting the first character candidate as a desired character if the comparison of the first character candidate to the set of stored words is successful;

determining a second character candidate from the pressure distribution on the key if the comparison of the first character candidate to the set of stored words is unsuccessful; and

performing a comparison of the second character candidate to the set of stored words.

13. (Twice amended) AThe method ~~according to~~ of claim 12, ~~characterised in that the at least two alternative ways of pressing a key comprises~~ wherein the pressure distribution is provided by pressing alternative corners and/or arms of a key.

15. (Twice amended) AThe method ~~in accordance with~~ of claim 12, wherein comparing the first and second character ~~strings~~ candidates to the set of stored words comprises applying an algorithm based on comparison with known vocabulary, probability of successive characters, frequency of words in language, sentence structure, topic and/or paragraph context.

17. (Twice amended) AThe method ~~in accordance with~~ of claim 12, wherein the ~~at least one key is pressed in one of at least two alternative ways~~ on a mobile station.

18. (Twice amended) AThe method ~~in accordance with~~ of claim 12, wherein ~~at least one~~ the key is ~~pressed in one of at least two alternative ways~~ on a computer.